The first important acquisition leading to this end was aërial respiration; the second, rapid nutrition by hot blood. And as essential to the production and preservation of these, improvements in organs of movement have been superadded to every successive type of life.

Consciousness remains as the unresolvable factor in the process; as at once the measure of, and respondent to a large class of phenomena.

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RECENT LITERATURE.

COOK'S BIOLOGY.[1]—It appears that the author of this book, after finishing his theological studies, exhausted the study of biology in the course of a summer's vacation by lying on his back on "Bioplast Beach," reading Beale on the Microscope and some of the popular books of Huxley and Haeckel on the Darwinian question. This may be an excellent way to get up a course of sensational lectures for an audience of clergymen and others who wish to be amused after their Sunday toil, but until we have some evidence that the author personally made the acquaintance of the weeds, snails, and other creatures living about this romantic Bioplast Beach, and spent a number of years studying their structure, development, and classification, we fear that the book must be set down as a burlesque on biology. The title, even, is misleading. The book should more properly be dubbed Romance of Natural Theology. No naturalist will want to waste time over it, and the lay as well as the clerical reader should look with no little suspicion upon the distorted science and sensational statements scattered through its pages. The Preludes are much better to our mind than the Biology.

VAUGHAN'S OSTEOLOGY AND MYOLOGY OF THE DOMESTIC FOWL.[2]—An account of the skeleton and muscles of the common fowl, such as this, will prove of much use to one beginning the study of anatomy. This book is well prepared and fully illustrated, and will be of service in the laboratory.

THE GEOLOGICAL RECORD FOR 1875.[3]—This volume is of the same nature as the one issued last year, though it is larger, improved in its plan, and contains an index of new species, which will add to its value in the eye of the palæontologist. As the

[1] *Biology: with Preludes on Current Events.* By JOSEPH COOK. Boston: James R. Osgood & Co. 12mo, pp. 325.

[2] *Notes on the Osteology and Myology of the Domestic Fowl (Gallus domesticus).* By VICTOR C. VAUGHAN, Ph. D. Sheehan & Co., Ann Arbor, Mich. 1876. 12mo, pp. 116. $1.50.

[3] *The Geological Record for* 1875. An Account of Works on Geology, Mineralogy and Palæontology, published during the year. Edited by WILLIAM WHITAKER. London: Taylor and Francis. 1877. 8vo, pp. 443.

American literature in the departments of which it treats is given in the same careful, detailed way as the European, our mineralogists, geologists, and palæontologists will find in it the only annual digest of discoveries and of new works to be had in the language; and it is for their interest, perhaps, to patronize the undertaking of the editor. It is partly supported by a grant from the British Association, but still needs a larger list of subscribers for its maintenance.

WINCHELL'S RECONCILIATION OF SCIENCE AND RELIGION.[4]—While there may be an occasional antagonism between scientists and theologians, due mainly, perhaps, to mutual ignorance of each other's aims and to quite different methods of study, few will admit that science and religion are at variance, for one is based upon the other. Superstition is based on ignorance. The greater our advance in science the more will crude dogmas and superstitions be eliminated from our religious conceptions. Science is only another name for human knowledge. Morality and religion rest on a scientific foundation, namely, a thorough knowledge of the laws of health, of physiology, and of psychology. The truly scientific mind has above all things a reverence for truth, and pursues knowledge for its own sake, regardless of consequences to preconceived notions or dogmas. Such a spirit will in the end serve only to strengthen the foundations of a pure morality and a true religion.

The essays are by an expert in geology, and a theologian as well, and therefore the volume is an authoritative one on this absorbing theme.

JOHNSON'S CYCLOPÆDIA.[2]—The fourth volume of this compact and useful cyclopædia well compares with the three that have preceded it, and the work as it now stands, from a scientific point of view at least, is quite as fresh and timely as could be desired. While the literary and biographical articles are excellent, especial stress has, as may be imagined from the names of the editors, been given to physical and natural science. Most of the zoölogical articles in the present volume have been contributed by Prof. Theodore Gill, though a lengthy and well illustrated article on sponges is contributed by Prof. Hyatt. Botanical articles by Profs. Gray, Goodale and Farlow, geological articles by Prof. Newberry, and palæontological articles by Prof. O. C. Marsh, attest the freshness and accuracy of the contributions, and the judgment shown by the editors in selecting the leading specialists of the country as collaborators.

[4] *Reconciliation of Science and Religion.* By ALEXANDER WINCHELL, LL.D. New York: Harper & Brothers. 1877. 12mo, pp. 403.

[2] Johnson's New Universal Cyclopædia: a scientific and popular treasury of useful knowledge. Illustrated with Maps, Plans and Engravings. Editors-in-chief, F. A. P. Barnard and Arnold Guyot. Complete in 4 vols. Vol. IV., 1878. A. J. Johnson & Son, New York. 8° pp. 1760.